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ABSTRACT

In this study, two ESEA Title I inner-city schools in the Salt Lake School District selected and trained upper-grade (grades 4, 5, and 6) students in structured tutoring techniques previously developed and proven effective by Grant V. Harrison in previous studies. Lower grade (first, second, and third grade) teachers identified the students ranking lowest in reading achievement. Following a pre-test, tutors taught the younger children over a period of eight weeks in sessions lasting about 15 minutes. The available results from one of the schools in the study showed that the tutored children gained a mean score of 16 from pre-test to post-test. Nine of the twelve tutored children were thus judged as achieving significant remediation through tutoring by an upper-grade tutor. (Author/DM)

REMEDIAL READING INSTRUCTION BY STUDENT TUTORS IN INNER-CITY SCHOOLS

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ABSTRACT

TITLE: Remedial Reading Instruction by Student Tutors In Inner-City Schools

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Two Title I schools in the inner-city selected and trained upper-grade (4th, 5th, and 6th) students in the structured tutoring techniques developed previously and proven effective by Grant V. Harrison in previous studies. Lower grade (1st, 2nd, and 3rd) teachers identified the lowest achieving students in their reading classes. These children were pre-tested. The pre-test evaluated the child's ability to name upper and lower case letters of the alphabet, to sound letters and digraphs, and to decode nonsense words. The twenty-five lowest achieving students were chosen from among those tested to be tutored.

Using the structured tutoring procedures in which they had been trained, the tutors taught a child regularly over a period of eight weeks in the names and sounds of letters the child did not know on the pre-test. In some cases the tutors progressed as far as the teaching of decoding of the nonsense words. Each tutoring session lasted approximately 15 minutes.

The children being tutored were tested for mastery at various times and post-tested at the end of eight weeks.

At this point results from one of the school are available. The results from the second school and the combined figures will be reported later.

In one school with twelve tutored children, the mean gain score from pre-test to post-test was 16. More significant is the fact that six of the twelve children were returned to their classrooms as remediated, and another three have progressed from no knowledge of names and sounds to the ability to read phonetic words. This means that nine of twelve children have been judged as achieving significant remediation through tutoring by an upper-grade tutor.

INTRODUCTION

Many tutorial programs have been developed in recent years attempting to help low achieving or problem children. Few of them, however, have shown empirically that students are actually benefitted from the tutoring. One tutorial model, which has shown such empirical evidence under a highly structured tutorial system, is that of Grant V. Harrison which he terms "Structured Tutoring" (March 1971).

Structured tutoring involves principles of learning identified with programmed instruction, and is in a sense, an extension of programmed instruction (Harrison, March 1971). It provides for the non-reading, unmotivated child the type of learner-program (tutor) interaction that Skinner said was necessary for effective learning. Namely: (1) constant interchange between program and student, (2) sustained activity, (3) thorough understanding of a given point before moving on, (4) presentation to student of only those materials for which he is ready, (5) helping student come up with the right answer, and (6) reinforcement for every correct response (Skinner, BB, Science, Vol. 128, Oct. 24, 1958).

The structured tutoring system consists of the following basic elements: (1) pre-established instructional objectives, (2) a predetermined sequence for introducing the objectives specified, (3) a valid means of assessing mastery of the pre-established instructional objectives, (4) instructional materials commensurate with the instructional objectives, (5) validated tutoring techniques and procedures commensurate with the instructional objectives, (6) management procedures capable of making instructional prescriptions for individual students based on pretest performance, (7) management procedures capable of systematically checking individual student mastery of instructional prescriptions, (8) management procedures capable of maintaining a

record of when instructional prescriptions are made, the date the student achieves mastery of each instructional prescription and the date subsequent reviews of objectives previously mastered are made, (9) management procedures capable of insuring that objectives previously mastered are systematically reviewed (Harrison, March 1971).

PROCEDURES

It was this structured tutoring system that was used in two Title I, inner-city schools in the Salt Lake School District over the past several months to provide remedial reading aid for slow achieving children. The two schools whose results are cited in this paper were chosen because of their pressing need for the kind of help structured tutoring could provide. Each school contained 30-40% black, Mexican American, and other minority group students.

Once the schools were identified, a tutor coordinator was chosen in each. This was a person designated by the principal to be responsible for supervising the tutoring program within the school and working closely with the district consultant to insure the successful incorporation of the program in the school. This coordinator was to be responsible for (a) divising and maintaining record sheets on each student being tutored, (b) preparing and administering diagnostic, criterion-referenced pretests, (c) preparing and organizing instructional materials, (d) selecting and training student tutors, (e) making instructional prescriptions, (f) scheduling students, tutors, and physical facilities, (g) making mastery and retention checks and divising schedules for systematic review of previously mastered prescriptions. One school chose the reading specialist for this assignment, the other the librarian.

Following Harrison's suggestion to use "in-house" (in the same building) tutors (March 1971), the 4th and 5th grade children in each school who had completed the Sullivan series and wished to accept the tutoring assignment were designated to be the first student tutors. These were, in most cases, the faster children in each class. Subsequent tutors added to the original core in each school were from among those who volunteered and/or who the teachers felt could profit by the experience as well as do a good job, regardless of whether they had completed the Sullivan books or not.

Next, training procedures began for the tutors. The training sessions were conducted alternately by the tutor coordinator and the district consultant (who visited each school weekly or bi-weekly to check on and aid in the progress of the program). A series of lessons over a two-week period trained the tutors to handle the following types of prescriptions: (1) teaching names of letters, (2) teaching sight words, (3) teaching sounds of letters and diagraphs, (4) teaching the child to blend sounds and (5) teaching the child how to decode words. These lessons also trained the tutors in the use of proven teaching techniques such as establishing and maintaining rapport with the student, continuous positive reinforcement, and consistent praise for correct responses. Further, the tutors were trained to keep a daily log of their activities and the children's progress.

Kindergarten, 1st and 2nd grade children were selected as the target population to be tutored. While the tutors were being trained, the coordinator administered the pretest to children in those grades whom the teachers had identified as needing the most help. In most cases, then, the children selected to receive tutoring help were the slowest in terms of their class performance.

The pretest had been developed by the coordinator in conference with the teachers. It consisted of naming letters, giving letter sounds, identifying sight words, and decoding words. The number of items on the test and their difficulty differed from grade to grade within each school and between schools. For example, a kindergarten teacher in one school set as criterion that her children learn the names of the upper and lower case letters of the alphabet. Another kindergarten teacher felt that only certain letters of the alphabet should be learned but she wanted each letter learned with its sound. A first grade teacher set as criterion the letter names, sounds, and words through Sullivan Book 2. A second grade teacher set as minimal criterion for her slow learners the same goal. In each case then, the criterion was decided upon and the pretest made up accordingly. It was then administered to the children specified.

As part of the record keeping system of the structured tutoring model, a profile sheet was made out for each child. This sheet was designed to be an accurate record of the child's progress to date. The first entry in it, then, was the results of the child's pretest, including items given, the date, and items not known.

From this profile sheet it was simple to perform the next task--making a prescription card for the child. The prescription card communicated to the tutor where he was to begin instruction with the child assigned to him, based on that child's performance on the pretest. If the child had been given a pretest which included knowing the names and sounds for the letters n, b, e, a, and p and he had not known the letter names for b, e, and p nor the sounds for n, b, e, and a, then the tutor's first assignment (prescription) would be to teach those names and sounds. The prescription and the date it was given were entered on the child's profile sheet.

The tutors worked with the children on a one-to-one basis 15 minutes per day. They kept daily logs of their activities and indicated when a child had reached mastery for a given prescription (usually this consisted of 6-8 items). The tutor coordinator made regular entries of the child's progress on his profile sheet and when mastery of a given prescription was reached, the coordinator followed through with a mastery check. If, indeed, the child had learned each item in the prescription, the subsequent prescription of 6-8 items (still based on the child's performance on the pretest) was assigned and the tutor continued his work.

Periodically, retention checks were given covering all previously learned items. If a mastery or retention check showed that a child had failed to learn or had forgotten any item, a note was made on the prescription card and the tutor reviewed or retaught that item before going on to a new one. When all items had been learned (all prescriptions filled) that is, criterion had been reached, a posttest was given. The posttest consisted of the same items as the pretest. The results were entered on the profile sheet.

As a child achieved criterion on the posttest, he was returned to his regular classroom work and a new child was assigned to the tutor. In some cases, the children progressed so rapidly under the tutor's instruction, that the classroom teacher felt the child was sufficiently remediated to be returned to his regular activities (though he had not reached criterion) and that the tutor should be reassigned to a child with more severe basic problems.

RESULTS

The tables on the following pages show pretest scores, posttest scores, learning gains, number of times tutored, and a summary of criterion achievement for each school.

SCHOOL "A"

Group 1 - Second grade children

	Pre-Test				Post-Test				Increase				Number of times tutored
	Letter names	Letter sounds	Sight words	Nonsense words	Letter names	Letter sounds	Sight words	Nonsense words	Letter names	Letter sounds	Sight words	Nonsense words	
Criterion	52	18	36	8	52	18	36	8					
Subject													
S_1	48	16	22	-	52	18	36	-	4	2	14	-	7
S_2	48	14	-	-	52	18	-	-	4	4	-	-	6
S_3	47	13	-	0	52	18	-	8	5	5	-	8	16
S_4	48	13	-	8	52	18	-	8	4	5	-	0	13
S_5	47	11	3	0	52	18	20	7	5	7	17	7	23
S_6	11	0	0	0	46	9	8	6	35	9	8	6	54
S_7	13	13	-	0	52	13	-	8	9	0	-	8	19
S_8	44	12	0	0	52	18	35	8	8	6	35	8	16
S_9	41	8	-	-	52	18	-	-	11	10	-	-	14
S_{10}	48	16	30	3	52	18	36	8	4	2	6	5	11
S_{11}	43	10	8	0	52	18	36	8	9	8	28	8	12
S_{12}	49	14	-	-	52	18	-	-	3	4	-	-	7
S_{13}	51	16	4	0	52	18	35	7	1	2	31	7	18
Average	41.4	12.0	9.6	1.2	51.5	16.9	29.4	7.6	7.8	4.9	9.9	6.3	16.6

Group 2 - Mixed grade levels (kindergarten through third grade)

Criterion	7	7	21	16	7	7	21	16					
Subject													
S_1	5	1	-	-	7	5	-	-	2	4			3
S_2	6	0	-	-	7	7	-	-	1	7			4
S_3	0	0	0	0	7	7	0	0	7	7	0	0	20
S_4	5	1	0	0	7	7	21	16	2	6	21	16	29
S_5	7	7	-	0	7	7	-	16	0	0	-	16	9
S_6	7	7	3	0	7	7	19	15	0	0	16	15	7
S_7	4	4	-	-	7	7	-	-	3	3	-	-	6
S_8	4	2	2	0	7	7	3	0	3	5	1	0	12
S_9	6	4	12	0	7	7	21	16	1	3	9	16	7
S_{10}	6	4	13	0	7	7	21	16	1	3	8	16	10
S_{11}	5	5	10	0	7	7	20	14	2	2	10	14	16
S_{12}	4	2	2	0	7	7	3	0	3	5	1	0	12
S_{13}	7	7	5	0	7	7	21	16	0	0	16	16	28
Average	5.1	3.4	5.2	0	7.0	6.8	14.3	10.9	2.0	3.1	9.1	10.9	14.2

SCHOOL "B"

Group 1 - Kindergarten children

	Pre-Test				Post-Test				Increase				
	Letter names	Letter sounds	Sight words	Nonsense words	Letter names	Letter sounds	Sight words	Nonsense words	Letter names	Letter sounds	Sight words	Nonsense words	Number of times tutored
Criterion	52				52								
Subject													
S_1	16				22				6				16
S_2	6				12				6				11
S_3	34				52				18				8
S_4	40				45				5				5
S_5	25				27				2				18
S_6	33				44				11				16
S_7	36				44				8				15
S_8	16				26				10				16
S_9	6				29				23				27
S_{10}	22				26				4				9
S_{11}	22				47				25				18
S_{12}	27				49				22				27
Average	23.6				35.3				11.7				15.5

Group 2 - First grade children

Criterion	6	6	21	16	6	6	21	16					
Subject													
S_1	3	1	0	0	6	6	12	0	3	5	12	0	27
S_2	5	5	15	0	6	6	19	0	1	1	4	0	10
S_3	3	0	0	0	6	6	12	0	3	6	12	0	17
S_4	3	4	15	0	5	5	16	0	2	1	1	0	5
S_5	6	4	0	0	6	5	13	0	0	1	13	0	16
S_6	6	4	4	0	6	6	21	0	0	2	17	0	7
S_7	2	0	0	0	6	6	14	0	4	6	14	0	8
S_8	3	0	7	0	6	4	11	0	3	4	4	0	7
S_9	0	0	0	0	6	6	11	0	6	6	11	0	17
S_{10}	4	0	2	0	5	5	19	14	1	5	17	14	20
S_{11}	6	1	0	0	6	6	13	0	0	5	13	0	19
S_{12}	6	4	9	0	6	6	18	0	0	2	9	0	5
S_{13}	2	0	0	0	3	0	0	0	1	0	0	0	11
S_{14}	5	4	7	0	6	6	12	0	1	2	5	0	16
Average	3.9	1.9	4.2	0	5.6	5.2	13.6	1.0	1.8	3.3	9.4	1	13.2

SUMMARY OF CRITERION ACHIEVEMENT

School "A"

Group 1

Criterion Objectives	Receiving Prescription	Number Achieving Criterion who Received Prescription	Average Percent of Criterion Reached of Those Receiving Prescription
Name Letters	13 out of 13	12 out of 13	99%
Produce Sounds	13 out of 13	11 out of 13	94%
Read Sight Words	7 out of 13	3 out of 7	82%
Decode Nonsense Words	9 out of 13	6 out of 9	95%

Group 2

Name Letters	13 out of 13	13 out of 13	100%
Produce Sounds	13 out of 13	12 out of 13	97%
Read Sight Words	9 out of 13	4 out of 9	72%
Decode Nonsense Words	10 out of 13	5 out of 10	68%

School "B"

Group 1

Criterion Objectives	Receiving Prescription	Number Achieving Criterion Who Received Prescription	Average Percent of Criterion Reached of Those Receiving Prescription
Name letters	12 out of 12	1 out of 12	68%

Group 2

Name Letters	14 out of 14	11 out of 14	93%
Produce Sounds	14 out of 14	9 out of 14	87%
Read Sight Words	14 out of 14	1 out of 14	65%
Decode Nonsense Words	14 out of 14	0 out of 14	½%

It is interesting to note the difference in criterion achievement between schools A and B in the objective to decode nonsense words. Only one child of 14 came close to reaching criterion for that objective in school B, while in school A, 15 of 19 children achieved or nearly achieved the same criterion. A partial explanation for this would include the following: (a) school A began the structured tutoring program in the 3rd month of the school year, while school B began in the 6th month, (b) school A began with children whose entry level (as seen from the pretest averages) was much higher than the children in school B, (c) school A worked primarily with 1st and second grade children, while school B concentrated on kindergarten and 1st grade. Because of these factors, the tutors in school B spent most of their time teaching letter names and sounds. Few of them got as far as the objectives to teach blending and decoding. The tutors in school A, however, had only to teach a few letter names and sounds and then move right in to the blending and decoding objectives.

The biggest gains made in each school were those in the area of learning letter names and sounds. School A reached 94-100% criterion for all children in these two categories. School B reached 85-93% criterion. These results are perhaps more impressive when one considers the supposedly unpleasant nature of the task--rote memorization.

DISCUSSION

This paper is somewhat unique from others of its kind in that the tutoring done and results obtained were in a normal school situation. That is, no attempt was made to isolate the children being tutored or put them in any kind of an artificial situation so as to collect "cleaner" data. Perhaps such a situation both adds to and detracts from the validity of the

data collected. For example, it is immediately apparent in such a setting that any gains made or losses incurred are not completely attributable to any one program. Many people are working with the children being tutored and certainly structured tutoring would not claim entire credit for the progress made by the children as shown on the tables in the preceding pages. However, it should be reemphasized at this point that the children selected by the teachers to receive tutoring help were the slowest and those having the most trouble in their classes. Several of the children were retainees. Others, the teachers had referred to the school psychologist for special testing. Some being tutored were actually assigned to special education classes during the school year. Several of the children knew only a few letter names or sounds when the tutoring began (in one school it began the 3rd month of the school year, and in the other in the 6th month) and in 2½ months were decoding nonsense words.

At best the normal routine of a public school is hectic. Assemblies, visitors, vacations, absenteeism, and other programs all tend to pollute the sterile atmosphere desirable for collecting "clean" scientific data. Perhaps, then, any program that can help produce positive results in such a "real world" setting deserves consideration.

There are some principles of structured tutoring that could have been enforced more closely, even in the school setting, to produce even more impressive results: (1) assuring tutoring help to each child at least three times per week, (2) seeing that tutors spend at least 15 minutes with the child in each session and, (3) being sure the tutors follow closely the structured tutoring model. Such controls could be obtained through closer supervision of the tutors by the tutor coordinator in each school.

Some problems which arose and the way they were dealt with might be mentioned at this point.

A positive reaction of teachers and students to the tutoring system is vital if it is to be successful in the school. To avert any bad feelings on the part of the teachers and staff, a brief outline of the tutoring program was presented to them in their regularly scheduled faculty meeting before the tutoring program was implemented in the school. It was emphasized that student tutoring was in no way intended to replace the teacher, nor was it being used because the teachers were not doing a good job. It was stressed that we were all working toward the same goal--helping the children--and where one individual or program may fail, another may succeed. The teachers almost unanimously accepted this and were extremely cooperative. As the tutoring progressed, they were kept up to date on the progress of the children in their room being tutored. They very frequently commented on the improvement they noted in these children. In several cases they said the childrens progress was "remarkable". "As soon as he learned to blend, his whole outlook about school and especially about reading changed," one teacher commented concerning a 2nd grader in her class who was being tutored. "Now he reads everything he can get his hands on". Similar comments by nearly all the teachers involved were not uncommon.

The children seemed to need little, if any, encouragement or convincing that they needed tutorial help. A couple of them were slightly hesitant at first, but were so encouraged after the first session that they couldn't wait each day for the tutoring time to come around. Their enthusiasm was evidenced in several cases when discipline problems arose. The children were told, when it became apparent that a few of them were taking advantage of the tutoring time just to get out of class, that if they misbehaved during the tutoring session, they would be suspended from receiving tutoring help. This was actually done in two cases. When the other children saw their privilege being threatened, the discipline problems all but ceased, and the

two children put on suspension were so well behaved in class during the next two weeks that they requested and were allowed to return to their tutors.

The tutors themselves sometimes presented more of a problem than the youngsters being tutored or the task they were assigned to teach. After the first several weeks the novelty of the program wore off and the tutors discovered there was an element of work involved in their assignment. At that point, it was necessary to begin a rewards program of some type for the tutors. This was handled in a variety of ways. Some teachers allowed the tutors from their class a certain amount of "free time" to do with as they pleased while the other children filled a particular assignment. Some teachers allowed them exemption from certain assignments. Several of the children asked if they could help the teachers grade papers--a task which gave them a great deal of satisfaction. Each school also had a party periodically for the tutors where they were served refreshments, played records, etc.

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